EPA is Accepting Public Comments on the Draft Permit from July 22 to September 4, 2002

Information Meetings

EPA will host two public information meetings to present the draft permit and answer questions:

7:00 p.m. Monday, August 5th
Old Town Hall
1478 County Street (Route 138)
Somerset, MA
7:00 p.m. Tuesday, August 6th
Mount Hope High School Auditorium
199 Chestnut Street
Bristol, RI

Public Hearings

EPA will host two public hearings to accept comments on the draft permit:

7:00 p.m. Monday, August 26th
Old Town Hall
Somerset, MA
7:00 p.m. Tuesday, August 27th
Mount Hope High School Auditorium
Bristol, RI

For more information about the meetings, or should you have specific needs or questions about the facilities and their accessibility, please contact: Angela Bonarrigo at 888-372-7341 x 81034

For More Information

Call EPA toll free at 888-372-7341 and ask for the following extensions:

Damien Houlihan, Project Manager	81586
Phil Colarusso, Biologist	81506
Mark Stein, Legal	81077
Angela Bonarrigo, Community Relations	81034

or call

MA Department of Environmental Protection
David Johnston, Deputy Regional Director
(508) 946-2708

What is a Formal Comment?

During the formal 45-day comment period, EPA will accept written comments and hold two hearings to accept comments. To make a formal comment, you need only speak during the public hearings on August 26th or 27th, or submit a written comment during the comment period.

Federal regulations require EPA to respond to formal comments in writing. EPA will not respond to your comments during the formal hearing. Once the meeting moderator announces that the formal hearing portion of the meeting is closed, EPA can respond to informal questions.

Before making a final decision, EPA will review all written comments and the transcript of the comments received at the hearings. Written comments should be postmarked no later than September 4, 2002, and sent to:

Damien Houlihan
US EPA, Suite 1100 (CNH)
1 Congress Street
Boston, MA 02114
Email: houlihan.damien@epa.gov
Fax: (617) 918-1505

For More Detailed Information

EPA's review of Brayton Point Station's thermal discharge and cooling water withdrawal is contained in EPA's document entitled "*Clean Water Act NPDES Permitting Determinations for Brayton Point Station's Thermal Discharge and Cooling Water Intake.*" This document contains the complete legal, biological, and technical analyses upon which the final determinations for the draft permit are based. It is available, along with the draft permit and technical fact sheet, for review at the following locations:

Somerset Public Library	Rogers Free Library	U.S. EPA Records Center
1464 County Street	525 Hope Street	1 Congress Street
Somerset, MA	Bristol, RI	Boston, MA
(508) 646-2829	(401) 253-6948	(617) 918-1440

information is also available for review on the world wide web at: **www.epa.gov/ne**

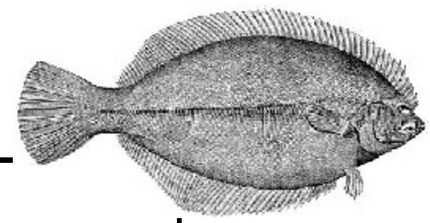
All documents may be downloaded and printed. (Adobe Acrobat Reader is required)

Brayton Point Station Somerset, MA July 2002

Proposed National Pollutant Discharge Elimination System (NPDES) Permit Fact Sheet

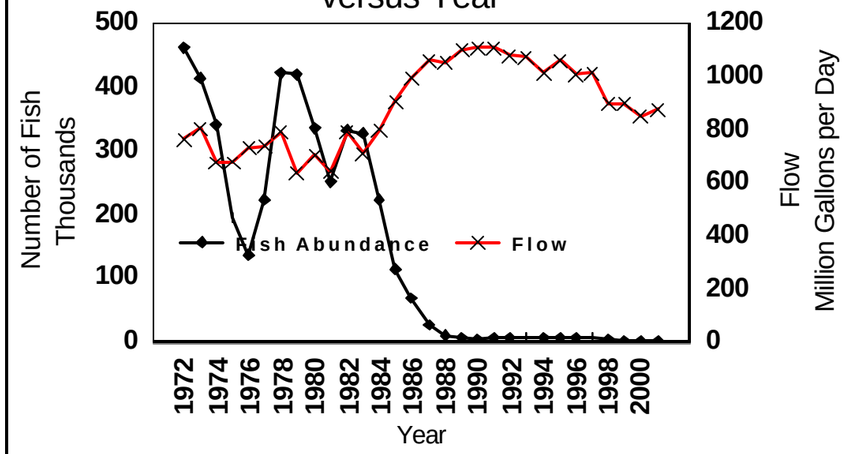
EPA has developed a Clean Water Act permit for the Brayton Point Station power plant together with MA Department of Environmental Protection (DEP) and in close coordination with RI Department of Environmental Management (DEM) to meet requirements of the Clean Water Act. This proposed permit seeks to substantially reduce the facility's impact on Mount Hope Bay. Compliance with this permit will be an essential complement to broader public and private efforts to restore and maintain the health of Mount Hope Bay and the greater Narragansett Bay ecosystem. These other efforts include fishing management, projects to improve sewage treatment, abatement of pollution from combined sewer overflows, and scientific research.

Brayton Point Station is the largest industrial source affecting Mount Hope Bay. Based on the scientific analysis to date, EPA, MA DEP and others have concluded that to protect the bay and give the fishery a chance to recover, stronger controls are needed on the power plant's withdrawal of water from the bay, and discharge of heated water back to the bay. The technology exists for Brayton Point Station to both meet the performance standards required by this draft permit and continue to produce reliable, inexpensive electricity for New England.



Mount Hope Bay

Winter Flounder Abundance and Flow versus Year



Fish populations declined by more than 87% after 1984 when Brayton Point Station began a 45% increase in cooling water withdrawal from the bay. Despite decreased fishing, many species have shown no signs of recovery. The above graph shows the decline of winter flounder relative to the increase in cooling water use. Similarly dramatic declines can be demonstrated for other fish species as well.

Average annual losses of fish eggs and larvae due to existing cooling water withdrawals at Brayton Point Station include:

- 251 million winter flounder
- 11.8 billion bay anchovy
- 375 million windowpane
- 3.5 billion tautog

Brayton Point Station's Impact on Mount Hope Bay

Located in Mount Hope Bay at the confluence of the Taunton and Lee Rivers, the Brayton Point Station power plant produces about 6% of the electricity consumed in New England. In producing this electricity, however, Brayton Point Station destroys trillions of marine organisms each year and significantly alters the temperature of the bay.

Each day, the station withdraws nearly one billion gallons of water from the bay and circulates it through the facility to condense the steam used to produce electricity. The water is then discharged back to the bay at elevated temperatures of up to 95º Fahrenheit. This "once through" cooling system has contributed to the collapse of the Mount Hope Bay fishery in the following ways:

- **Destroying trillions of organisms.** Water taken from the bay by the facility contains trillions of organisms, including billions of fish eggs and larvae. These organisms are pulled through the facility by a process known as entrainment and are killed by severe physical and chemical impacts and extreme water temperatures. For example, 251 million winter flounder larvae, 3.5 billion tautog eggs and 375 million windowpane eggs are harmed in an average year.

Cooling water withdrawals also create a water velocity at the intake pipes which trap many juvenile and mature fish against the intake screens. This process is known as impingement. For example, in 1999, more than 75,000 Atlantic Menhaden were killed during a month long impingement event.

Altogether, trillions of organisms are lost to entrainment and impingement each year, including species of commercial and recreational importance, and forage fish which are integral to the entire food web.

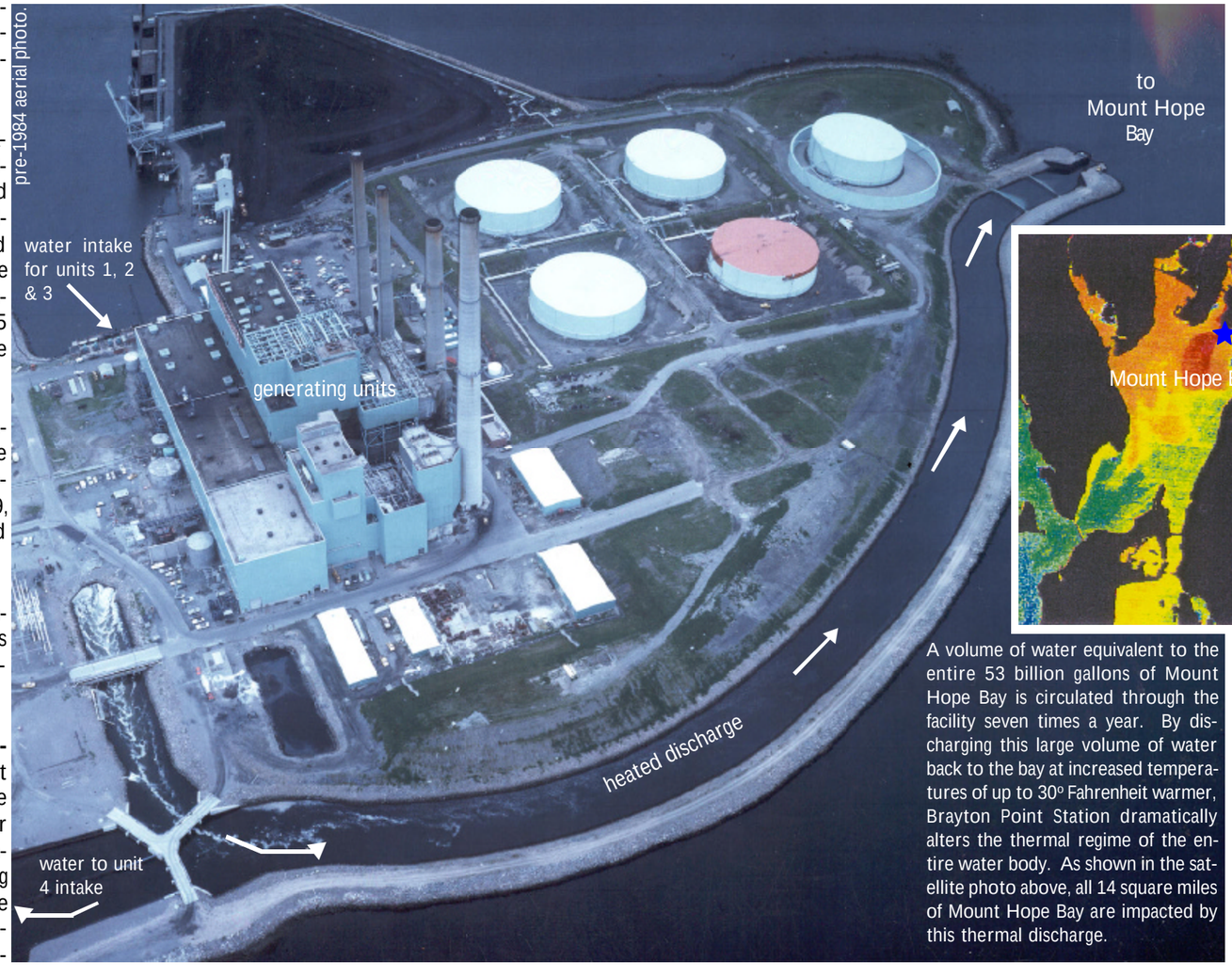
- **Dramatically altering the water temperature in the bay.** As a result of Brayton Point Station discharges of heated water, the temperature in the bay is about 1.5º Fahrenheit greater than other similar water bodies locally. This is a significant temperature difference in a fragile ecosystem. Altering the natural temperature of the bay has degraded the habitat, making areas inhospitable to native fish species and disrupting the balanced indigenous community of fish that should exist in Mount Hope Bay.

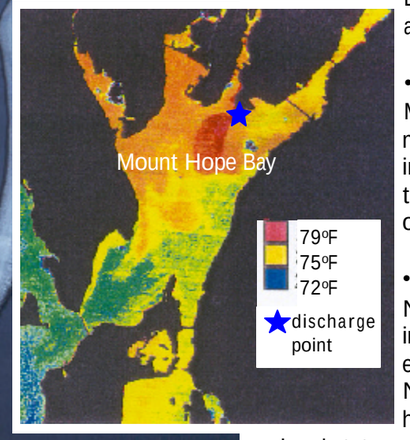
What Does EPA's Draft Permit Require?

Consistent with Clean Water Act requirements, EPA is proposing thermal discharge limits that protect marine life in Mount Hope Bay and allow it to reproduce. In addition, EPA is setting cooling water intake flow limits so that Brayton Point Station's cooling system reflects the best technology available to minimize the facility's adverse environmental impacts. The draft permit specifically requires Brayton Point Station to:

- Reduce total annual heat discharge to the bay by 96%, from 42 trillion British Thermal Units (BTUs) a year to 1.7 trillion BTUs a year; and
- Reduce water withdrawal from the bay by approximately 94%, from nearly 1 billion gallons a day to 56 million gallons a day. This flow requirement is consistent with closed-cycle cooling technology using mechanical draft cooling towers for generating units 1 through 4.

Based on Brayton Point Station's historic impact on the fishery, a closed-cycle cooling system will eliminate annual fishery losses by an estimated 94% and improve habitat quality, thereby helping to give the fishery an opportunity to recover.





A volume of water equivalent to the entire 53 billion gallons of Mount Hope Bay is circulated through the facility seven times a year. By discharging this large volume of water back to the bay at increased temperatures of up to 30º Fahrenheit warmer, Brayton Point Station dramatically alters the thermal regime of the entire water body. As shown in the satellite photo above, all 14 square miles of Mount Hope Bay are impacted by this thermal discharge.

Protecting Mount Hope Bay

While many federal, state and local efforts have been underway to protect Mount Hope Bay and the larger Narragansett Bay estuary, Brayton Point Station has continued to operate with nearly the same "once-through" cooling technology that was installed almost 40 years ago. Requiring the power plant to invest in modern cooling system equipment complements these other efforts, which include:

- Sewage treatment improvements in Fall River, including a $115 million combined sewer overflow abatement program, being implemented to meet state and federal water quality requirements.

- In an effort to restore fishing stocks, strict recreational and commercial fishing limits have been imposed in Massachusetts and Rhode Island for Mount Hope Bay. For all but two months of the year, it is illegal for recreational fishermen to take any winter flounder from the bay or its tributaries. In addition, most areas of upper Narragansett Bay, which includes all of Mount Hope Bay, are closed to commercial trawlers.

- At the regional level, the National Marine Fisheries Service has spent $160 million in the last 10 years buying back fishing vessels and licenses from fishermen in the northeast to reduce fishing pressure on groundfish, including winter flounder.

- Enhancing knowledge about the Narragansett Bay estuary and implementing activities to protect and restore the estuary and its resources through the Narragansett Bay Estuary Program, which has spent approximately $15 million in federal and state matching funds in this effort since1984.

Brayton Point Station's cooling water system has contributed to the collapse of the fishery and inhibited its recovery, even as steps to reduce fishing pressure and improve pollution controls are being taken to facilitate the bay's recovery. Upgrading the facility's cooling systems with modern technologies that cut cooling water volume and thermal discharge will make it possible for Brayton Point Station to reduce its harmful effects on Mount Hope Bay while continuing to generate electricity for New England. The goal is that these improvements will allow the fishery to recover and restrictions on fishing to be relaxed.